ABSTRACT OF THE DISCLOSURE

A method, system, and computer program product for blind Karhunen-Loeve transform (KLT) coding is disclosed, wherein KLT coefficients and possibly additional information are transmitted without transmitting KLT basis vectors. Instead the KLT basis vectors are estimated at both the transmitter and the receiver. In particular, the KLT transform coefficients are calculated based on an original signal frame, quantized, encoded, and transmitted. The transmitted KLT coefficients are received, decoded, and transformed into a reconstructed original signal frame by the receiver. Exemplary embodiments include a KLT coder in which a search direction vector is initially set to an arbitrary vector, such as a white noise vector, a KLT coder which selects a search direction vector from a set of search direction vectors in a codebook and a KLT coder for an original signal frame with an unknown signal subspace dimension.

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